



**SEQUENCE LISTING**

<110> Murdin, Andrew D  
Dunn, Pamela L

<120> IMMUNOGENIC COMPOSITIONS FOR PROTECTION AGAINST CHLAMYDIAL INFECTION

<130> 1038-971 MIS:jb

<140> 09/391,606

<141> 1999-09-07

<160> 20

<170> PatentIn Ver. 2.1

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Gln Val Pro Trp Ile Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly  
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Gly Lys Glu Asn Leu Ala Trp Phe Ile Gly Gly Thr Leu Gly Gly Leu  
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Lys Glu Ala Asn Ser Phe Thr Asn Tyr Lys Gly Phe Ser Ala Leu Tyr  
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Met Tyr Gly Ile Thr Asp Ser Leu Ser Phe Arg Ala Tyr Gly Ala Tyr  
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Val Asn Ala Leu Met Ser Leu Ala Asp Lys Leu Gly Ile Ala Ser Ser  
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Asp Ile Gln Ala Ala Leu Val Ser Leu Gln Asp Ala Val Thr Asn Ile  
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Leu Ala Lys Tyr Ala Ser Asp Asn Gln Ala Ile Leu Asp Ser Leu Gly  
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Lys Leu Thr Ser Phe Asp Leu Leu Gln Thr Ala Leu Leu Gln Ser Val  
 195 200 205

Ala Asn Asn Asn Lys Ala Ala Glu Leu Leu Lys Glu Met Gln Asp Asn  
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Pro Val Val Pro Gly Lys Thr Pro Ala Ile Ala Gln Ser Leu Val Asp  
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Gly Asp Ala Tyr Phe Ala Gly Gln Asn Ala Ser Gly Ala Val Glu Asn  
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Ala Lys Ser Asn Asn Ser Ile Ser Asn Ile Asp Ser Ala Lys Ala Ala  
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Asp Ser Pro Ile Leu Gln Glu Ala Glu Gln Met Val Ile Gln Ala Glu  
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Lys Asp Leu Lys Asn Ile Lys Pro Ala Asp Gly Ser Asp Val Pro Asn  
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Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln Gly Ser Ser Ile Gly  
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Glu Asn Pro Asp Ser Gln Ala Ala Gln Glu Leu Ala Ala Gln Ala  
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Arg Ala Ala Lys Ala Ala Gly Asp Asp Ser Ala Ala Ala Leu Ala  
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Asp Ala Gln Lys Ala Leu Glu Ala Ala Leu Gly Lys Ala Gly Gln Gln  
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Gln Gly Ile Leu Asn Ala Leu Gly Gln Ile Ala Ser Ala Ala Val Val  
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Ser Ala Gly Val Leu Pro Leu Gln Gln Val Leu Trp Ile Arg Ala Arg  
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&lt;210&gt; 14

&lt;211&gt; 1101

&lt;212&gt; DNA

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 14

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 ttttctatgg gagccaagcc tactggatcc gctgctgcaa actataactac tgccgttagat 240  
 agacctaacc cggcctacaa taagcattta cacatgcag agtggttcac taatgcaggc 300  
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 gtttacattna gaggaaactc tacagcgttca aatctcggtt gtttattcgg agttaaagg 420  
 actactgtaa atgcaaatga actaccaaacc gtttcttaa gtaacggagt ttttgaactt 480  
 tacacagaca cctcttctc ttggagcgta ggcgctcggt gggccttatg ggaatgcgg 540  
 ttttgcactt tgggagctga attccatat gcacagtcca aacctaaagt tgaagaactt 600  
 aatgtgatct gtaacgttac gcaattcttca gtaaacaacc ccaaggcgtt taaaggcgtt 660  
 gcttccctt tgccaaacaga cgctggcgta gcaacagctt ctggaaacaaa gtctgcgacc 720  
 atcaattatc atgaatggca agtaggagcc tctctatctt acagactaaa ctcttttagt 780  
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 aatgccacag cattgtctac tactgattcg ttctcagact tcatgcaaat ttgttctgt 960  
 cagatcaaca agttttaatc tagaaaaagg tttttttttt ctgttggaggc tttttttttt 1020  
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&lt;210&gt; 15

&lt;211&gt; 394

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

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 20 25 30  
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 35 40 45  
 Phe Asp Arg Ile Leu Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly  
 50 55 60  
 Ala Lys Pro Thr Gly Ser Ala Ala Asn Tyr Thr Thr Ala Val Asp  
 65 70 75 80  
 Arg Pro Asn Pro Ala Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe  
 85 90 95  
 Thr Asn Ala Gly Phe Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val  
 100 105 110  
 Phe Cys Thr Leu Gly Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr  
 115 120 125  
 Ala Phe Asn Leu Val Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn  
 130 135 140  
 Ala Asn Glu Leu Pro Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu  
 145 150 155 160  
 Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu  
 165 170 175  
 Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln  
 180 185 190  
 Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln  
 195 200 205  
 Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu  
 210 215 220  
 Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser Ala Thr  
 225 230 235 240  
 Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr Arg Leu  
 245 250 255  
 Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala Thr Phe  
 260 265 270  
 Asp Ala Asp Asn Ile Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val  
 275 280 285  
 Leu Asn Leu Thr Ala Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala  
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Leu Ser Thr Thr Asp Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys  
 305 310 315 320

Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly Val Thr Val Gly  
 325 330 335

Ala Thr Leu Val Asp Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg  
 340 345 350

Leu Ile Asn Glu Arg Ala Ala His Val Ser Gly Gln Phe Arg Phe Arg  
 355 360 365

Tyr Gln Ala Tyr Val Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn  
 370 375 380

Ser Ala Val Asp His His His His His His  
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<210> 16

<211> 367

<212> PRT

<213> Chlamydia pneumoniae

<400> 16

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Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe Tyr Gly Asp Tyr Val  
 35 40 45

Phe Asp Arg Ile Leu Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly  
 50 55 60

Ala Lys Pro Thr Gly Ser Ala Ala Asn Tyr Thr Thr Ala Val Asp  
 65 70 75 80

Arg Pro Asn Pro Ala Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe  
 85 90 95

Thr Asn Ala Gly Phe Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val  
 100 105 110

Phe Cys Thr Leu Gly Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr  
 115 120 125

Ala Phe Asn Leu Val Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn  
 130 135 140

Ala Asn Glu Leu Pro Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu  
 145 150 155 160

Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu  
 165 170 175

Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln  
 180 185 190

Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln  
 195 200 205

Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu  
 210 215 220

Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser Ala Thr  
 225 230 235 240

Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr Arg Leu  
 245 250 255

Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala Thr Phe  
 260 265 270

Asp Ala Asp Asn Ile Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val  
 275 280 285

Leu Asn Leu Thr Ala Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala  
 290 295 300

Leu Ser Thr Thr Asp Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys  
 305 310 315 320

Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly Val Thr Val Gly  
 325 330 335

Ala Thr Leu Val Asp Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg  
 340 345 350

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<210> 17

<211> 38

<212> DNA

<213> Chlamydia pneumoniae

<400> 17

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38

<210> 18

<211> 28

<212> DNA

<213> Chlamydia pneumoniae

<400> 18

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28

<210> 19

<211> 38

<212> DNA

<213> Chlamydia pneumoniae

*a*  
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<210> 20  
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<212> DNA  
<213> Chlamydia pneumoniae

<400> 20  
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